**Artificial Intelligence**

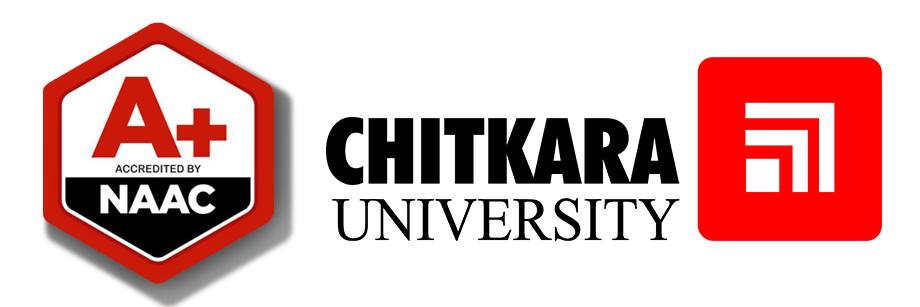
**and**

**Machine Learning**

Project Abstract

Semester-IV (Batch-2022)

Music Recommendation System



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**Title:** Music Recommendation System machine learning project

**Abstract:**

With the explosion of network in the past decades, internet has become the major source of retrieving multimedia information such as video, books, and music etc. People has considered that music is an important aspect of their lives and they listen to music, an activity they engaged in frequently. Previous research has also indicated that participants listened to music more often than any of the other activities (i.e. watching television, reading books, and watching movies). Music, as a powerful communication and self-expression approach, therefore, has appealed a wealth of research. ? Yading is supported by the China Scholarship Council. We would like to thank Gearing A. Wiggins for his advices. 9th International Symposium on Computer Music Modelling and Retrieval (CMMR 2012) 19-22 June 2012, Queen Mary University of London All rights remain with the authors. 395 2 Yading Song, Simon Dixon and Marcus Pearce However, the problem now is to organise and manage the million of music titles produced by society. MIR techniques have been developed to solve problems such as genre classification [42, 75], artist identification, and instrument recognition. Since 2005, an annual evaluation event called Music Information Retrieval Evaluation eXchange is held to facilitate the development of MIR algorithms. Additionally, music recommender is to help users filter and discover songs according to their tastes. A good music recommender system should be able to automatically detect preferences and generate playlists accordingly. Meanwhile, the development of recommender systems provides a great opportunity for industry to aggregate the users who are interested in music. More importantly, it raises challenges for us to better understand and model users’ preferences in music [76]. Currently, based on users’ listening behaviour and historical ratings, collaborative filtering algorithm has been found to perform well [9]. Combined with the use of content-based model, the user can get a list of similar songs by low level acoustic features such as rhythm, pitch or high-level features like genre, instrument etc [7]. Some music discovery websites such as Last.fm2 , All music3 , Pandora4 and Shazam5 have successfully used these two approaches into reality. At the meantime, these websites provide an unique platform to retrieve rich and useful information for user studies. Music is subjective and universal. It not only can convey emotion, but also can it modulate a listener’s mood [23]. The tastes in music are varied from person to person, therefore, the previous approaches cannot always meet the users’ needs. An emotion-based model and a context-based model have been proposed [18, 34]. The former one recommends music based on mood which allows the user to locate their expected perceived emotion on a 2D valence-arousal interface [22]. The latter one collects other contextual information such as comments, music review, or social tags to generate the playlist. Though hybrid music recommender systems would outperform the conventional models, the development is still at very early stage [88]. Due to recent studies in psychology, signal processing, machine learning and musicology, there is much room for future extension. This paper, therefore, surveys a general music recommender framework from user profiling, item modelling, and item-user profile matching to a series of state of-art approaches. Section 2 gives a brief introduction of components in music recommendation systems and in section 3, the state-of-art recommendation techniques are explained. To the end of this paper, we conclude and propose a new model based on users’ motivation